



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,948	03/15/2004	Daniel B. Nielson	2507-6358US(22043-US-01)	2920

60794 7590 11/29/2007  
TRASKBRITT, P.C./ ALLIANT TECH SYSTEMS  
P.O. BOX 2550  
SALT LAKE CITY, UT 84110

EXAMINER
----------

FELTON, AILEEN BAKER

ART UNIT	PAPER NUMBER
----------	--------------

1793

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/29/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

**Office Action Summary**

Application No.

10/801,948

Applicant(s)

NIELSON ET AL.

Examiner

Aileen B. Felton

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/12/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 16, 25, 26 and 50-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 16, 25, 26 and 50-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 25, 26, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posson et al (6,896,751) in view of Koch (6,635,130).

Posson et al discloses a propellant for use in munitions that comprises a 25 % or less of a terpolymer of hexafluoropropylene, vinylidene fluoride, and tetrafluoroethylene (col. 4, lines 5-15). The composition includes a primary fuel from 5-50 % that can be any active fuel and includes metals (col. 4, lines 58-67). Note that all other components are optional since Posson indicates that they "may" be included. Also, note that Posson indicates that even though the method disclosed is useful for the metal/oxidant/polymer pyrotechnic, it may be used to coat metallic particles, thus indicating that there would only be metal particles and polymer (col. 3, lines 40-47). Also, see col. 5, lines 25-30 where Posson indicates that an oxidizing agent "may" be used. The composition is used in a munitions casing and is capable of reacting upon impact.

Koch teaches the use of hafnium as a fuel with fluoropolymers in a decoy flare (col. 2, lines 43-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use hafnium as taught by Koch since Koch indicates that it is a known fuel to use with fluorocarbons and since Posson discloses that it is known to combine metals with the terpolymer that is described.

3. Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posson et al (6,896,751) in view of Koch as applied to claims 1, 25, 26, and 52 above, and further in view of Posson et al (6,427,599).

Posson et al ('599) teaches a reactive composition for use in a decoy flare that comprises magnesium of 60 %, Teflon of 30 %, and Viton of 10 % (col. 28, lines 65-68 and col. 29, lines 1-5). Example 1 discloses pellets from 2.5-95 grams.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teachings of Posson ('599) with the disclosures of Posson ('751) and Koch since they all relate to similar reactive compositions with fluoropolymers and metals since Posson ('599) teaches that it is known to form these compositions into pellets of a certain weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the parameters of the propellant to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

4. Claims 1, 16, 25, 26, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucy (4,131,498) in view of Posson et al (6,896,751).

Lucy discloses an incendiary composition that comprises a fluoropolymer from 2-15 % and the balance being hafnium (see abstract and col. 4, lines 13-25). The composition is used in a munitions casing and is capable of reacting upon impact. The specific fluoropolymer is not disclosed.

Posson et al discloses a propellant for use in munitions that comprises a 25 % or less of a terpolymer of hexafluoropropylene, vinylidene fluoride, and tetrafluoroethylene (col. 4, lines 5-15). The composition includes a primary fuel from 5-50 % that can be any active fuel and includes metals (col. 4, lines 58-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the terpolymer taught by Posson with the composition disclosed by Lucy since Lucy discloses that various fluoropolymers may be used with the hafnium metal and since Posson indicates that the terpolymer of hexafluoropropylene, vinylidene fluoride, and tetrafluoroethylene is useful with various metal fuels.

### ***Response to Arguments***

5. Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant's arguments regarding Posson ('751) are not persuasive since Posson indicates that even though the method disclosed is useful for the metal/oxidant/polymer pyrotechnic, it may be used to coat metallic particles, thus indicating that there would

only be metal particles and polymer (col. 3, lines 40-47). Also, see col. 5, lines 25-30 where Posson indicates that an oxidizing agent "may" be used.

Further, note that it is obvious to substitute one known fluoropolymer for another and since Posson discloses that the terpolymer is known to use to coat metals, it would be obvious to use it with the hafnium taught by Koch since Koch similarly uses fluoropolymers.

Even though Lucy fails to disclose the claimed terpolymer, Lucy indicates that mixtures of 2 or more such polymers may be used. Thus, it would be obvious to use the terpolymer disclosed by Posson since Lucy suggests that various fluoropolymers may be used and since Posson suggests that the terpolymer is known to use with reactive metals.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1793

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen B. Felton whose telephone number is 571.272.6875. The examiner can normally be reached on Monday-Friday 6:30-4:00, except alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571.272.1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aileen Felton/  
Primary Examiner  
Art Unit 1793